

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS:

1. (Previously Presented) A data charging system for charging for the use of object data, the system comprising:

a server machine for generating contents containing a plurality of types of object data,
an IC card including a recording medium for recording (i) charging data for paying for said object data and (ii) recognition data for identifying the type of the object data, and

a client machines for receiving said contents generated by the server machine,
the client machine including a data charging apparatus for using said IC card to charge for the use of said object data by using said charging data and said recognition data which have been recorded on said IC card;

wherein said data charging apparatus comprises:

data reading logic for reading out said recognition data and said charging data from said recording medium,

a separator for separating said object data from said contents,

a recognition logic for identifying the specific type of said separated object data by using said recognition data,

an accounting logic for dynamically charging for the use of said separated object data, based on the type of data said separated object data is, as determined by using said recognition data, and by using said charging data which has been read out from the recording medium, and

a writing logic for writing, as part of said charging data in the recording medium, the results of charging for the use of said separated object data.

2. (Previously Presented) A content generator on a server machine for embedding digital watermarks in object data of a specific type and generating contents in a data charging system which records, on an IC card recording medium, charging data used for paying for object data contained in said contents and recognition data used for identifying the type of object data in said contents, and said IC card being used by a client machine to charge dynamically only for the use of the object data received by the client machine and embedded with said digital watermarks, based on the specific type of data said object data is, as determined by using said recognition data, and by using said charging data and said recognition data which have been recorded in said recording medium.

3. (Previously Presented) In a data charging system including a server machine which records, on an IC card recording medium, charging data for paying for object data and contained in contents and recognition data used for identifying the type of object data in said contents and pays for the use of said object data by using said charging data and said recognition data which has been recorded in the recording medium,

a client machine including a data charging apparatus comprising:

a data reading logic for reading said recognition data and said charging data from said recording medium,

a separator for separating said object data from said contents,

a recognition logic for identifying the type of said separated object data by using said recognition data read out from the recording medium,

an accounting logic for dynamically charging for the use of said separated object, based on the type of data said separated object data is, as determined by using said recognition data, and data by using said charging data which has been read out from the recording medium, and

a writing logic for writing, as part of said charging data in the recording medium, the results of charging for the use of said separated object data.

4. (Previously Presented) The data charging apparatus according to Claim 3, wherein said contents comprise said object data and said recognition data for recognizing this object data,

said separator separates said object data and said recognition data from said contents,

said recognition logic recognizes said object data, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from said recording medium, and

said accounting logic charges for said object data by using said charging data which has been read out.

5. (Previously Presented) The data charging apparatus according to Claim 3, further comprising a watermarking logic for embedding digital watermarks in said object data which has been separated from said contents, wherein said separator separates said object data and said recognition data from said contents,

said recognition logic recognizes said object data, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from said recording medium, and

said accounting logic charges for said object data embedded with said digital watermarks.

6. (Previously Presented) The data charging apparatus according to Claim 3, wherein a digital watermark is embedded in said object data in said contents,

said data charging apparatus further comprising a means for detecting if said object data is embedded with said digital watermark,

said separator separating said object data and said recognition data from said contents, said recognition logic recognizing said object data, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from said recording medium, and

said accounting logic charging for said object data only if said object data is found to be embedded with said digital watermark.

7. (Previously Presented) The data charging apparatus according to Claim 3, wherein said charging data recorded on said recording medium contains at least payment data which indicates payment made in advance for the use of said object data, and

said accounting logic charges for the use of said object data within limits of an amount indicated by said payment data contained in said charging data.

8. (Previously Presented) The data charging apparatus according to Claim 7, wherein said charging data recorded on said recording medium further contains unit price data representing an accounting unit for the use of said object data and a price corresponding to the accounting unit,

said data charging apparatus comprising an accounting unit detection logic for detecting unit accounting amount data which represents an amount of said accounting unit for the object data which has been separated from said contents,

said accounting logic charging within the limits of the amount indicated by said payment data, based on said unit price data contained in said charging data which has been read out and on the unit accounting amount data which has been detected.

Claim 9 (Cancelled).

10. (Previously Presented) A data charging method for using a server machine for generating contents which contain a plurality of types of object data and recognition data used for the identifying this object data in the generated contents, recording, in an IC card including a recording medium, (i) charging data for paying for said object data and (ii) the recognition data used for identifying the specified type of the object data, and charging for the use of said object data by using said charging data and said recognition data which have been recorded, comprising the steps of:

delivering the generated contents to a client machine; and

using the client machine for

reading said recognition data and said charging data from said IC card,

separating said object data from said contents,
identifying the specified type of said separated object data by using said recognition data which has been read out from the IC card,
using the IC card to charge dynamically for the use of said separated object data, based on the specified type of data said object data is, as determined by using said recognition data, and by using said charging data which has been read out from the recording medium; and
writing into the IC card, as part of said charging data, the results of charging for the use of said recognized object data.

11. (Previously Presented) A data charging method according to Claim 10, wherein said object data in said contents are embedded with digital watermarks, comprising the steps of:

separating said object data and said recognition data from said contents;

recognizing said object data, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from said recording medium;

detecting said digital watermark embedded in said object data; and

charging for said recognized object data only by using said charging data which has been read out if said object data is found to be embedded with said digital watermark.

12. (Previously Presented) A data charging method according to Claim 10, comprising the steps of:

separating said object data and said recognition data from said contents;

recognizing said object data, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from said recording medium;

embedding digital watermarks in said separated object data; and

charging for the use of the object data embedded with said digital watermarks by using said charging data which has been read out.

13. (Previously Presented) In a data charging apparatus of a data charging system which uses a server machine to record, on an IC card including a recording medium, (i) charging data used for paying for object data of a specified type and contained in contents and (ii) recognition data used for identifying the specified type of the object data in said contents, and charges for the use of said object data by using said charging data and said recognition data which have been recorded;

a computer program product enabling a client machine that has received said contents to execute the steps of:

reading said recognition data and said charging data from the IC card, separating said object data from said contents,

identifying the specified type of said separated object data by using said recognition data which has been read out from the IC card,

using said IC card to charge dynamically for the use of said separated object data, based on the specific type of data said separated object data is, as determined by using said recognition data, and by using said charging data which has been read out from the recording medium, and

writing into the IC card, as part of said charging data, the results of charging for the use of said recognized object data into said recording medium.

14. (Previously Presented) The computer program product according to Claim 13, wherein said contents contain said object data and said recognition data used for recognition of the object data,

said object data and said recognition data are separated from said contents in said separation step,

said object data is recognized in said recognition step, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from the recording medium, and

a charge is made for said object data in said charging step by using said charging data which has been read out.

15. (Previously Presented) The computer program product according to Claim 13, wherein the computer is made to execute the step of embedding digital watermarks in said object data which has been separated from said contents,

said object data and said recognition data are separated from said contents in said separation step,

said object data is recognized in said recognition step, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from the recording medium, and

a charge is made for said object data embedded with said digital watermarks in said charging step.

16. (Previously Presented) The computer program product according to Claim 13, wherein said object data in said contents are embedded with digital watermarks,

the computer is further made to execute the step of detecting that said object data is embedded with said digital watermarks,

said object data and said recognition data are separated from said contents in said separation step,

said object data is recognized in said recognition step, based on said recognition data which has been separated from said contents and on said recognition data which has been read out from the recording medium, and

a charge is made for said object data in said charging step only if said object data is found to be embedded with said digital watermark.

Claims 17-20 (Cancelled).

21. (Previously Presented) A data charging system according to Claim 20 1, wherein the server generates watermark information about the digital watermark and also embedded in said contents.

22. (Previously Presented) A method according to Claim 11, further comprising the step of embedding in said contents information about the digital watermarks.

23. (Previously Presented) A method according to Claim 22, wherein the embedding step includes the step of embedding in said contents instructions for embedding the contents with said digital watermarks.

24. (Previously Presented) A data charging system according to Claim 1, wherein:

the content generator also puts recognition data in said contents; and

the object data is identified based on the recognition data in said contents and said recognition data read from the recording medium.

25. (Previously Presented) Apparatus according to Claim 24, wherein the recognition logic compares the recognition data read out from the IC card with the recognition data separated from said contents to determine if said two kinds of recognition data match.